Pre-Quiz : Thermodynamics, part II

Specific heat of water: 4.18 J/gC

Specific heat of steam: 2.08 J/gC

Specific heat of ice: 2.06 J/gC

Heat of fusion for water: 334 J/g

Heat of vaporization of water: 2260 J/g

1. Your choices for the following fill-in-the-blanks: solid, liquid, gas

a. Sublimation: \_\_\_\_\_\_\_\_\_\_\_ turns in to \_\_\_\_\_\_\_\_\_\_\_\_.

b. Vaporization: \_\_\_\_\_\_\_\_\_\_\_ turns in to \_\_\_\_\_\_\_\_\_\_\_\_\_

c. Melting: \_\_\_\_\_\_\_\_\_\_\_ turns in to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. Condensation\_\_\_\_\_\_\_\_\_turns in to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. A hot pack gives off heat when it is crushed and the calcium chloride inside reacts. Is this an endothermic or exothermic reaction?

3. Is a candle flame an exothermic or endothermic reaction?

4. How many joules are required to melt 75 grams of water?

5. How many joules are required to heat 250 grams of water from 15 degrees Celsius to 105 degrees Celsius?

6. How many joules are required to cool 300 grams of water from 50 degrees Celsius to -35 degrees Celsius?

7. How many joules are released when 550 grams of water are raised from -85 degrees Celsius to 135 degrees Celsius?

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1. Your choices for the following fill-in-the-blanks: solid, liquid, gas

a. Sublimation: \_\_\_\_solid\_\_\_\_ turns in to \_\_\_\_gas\_\_\_\_\_\_\_\_.

b. Melting: \_\_\_\_\_solid\_\_\_\_\_ turns in to \_\_\_\_liquid\_\_\_\_\_\_\_\_.

c. Vaporization: \_\_\_\_liquid\_\_\_\_\_ turns in to \_\_\_\_\_\_gas\_\_\_\_\_\_\_.

d. Condensation: \_\_\_\_liquid\_\_\_\_\_\_\_ comes from \_\_\_\_\_\_gas\_\_\_\_\_\_\_.

2. A hot pack gives off heat when it is crushed and the calcium chloride inside reacts. Is this an endothermic or exothermic reaction?

3. Is a candle flame an exothermic or endothermic reaction?

4. How many joules are required to melt 15 grams of water?

5. How many joules are required to heat 205 grams of water from 75 degrees Celsius to 105 degrees Celsius?

6. How many joules are required to cool 300 grams of water from 60 degrees Celsius to -35 degrees Celsius?

7. How many joules are released when 450 grams of water are raised from -85 degrees Celsius to 185 degrees Celsius?